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them as varieties and simply numbered them by Greek letters. Obviously the propositions in the *Gardeners' Chronicle* had not been thoroughly worked out.—ASA GRAY, in *Amer. Journ. Science*.

*Sex in Plants*.—Some interesting experiments have been carried out by F. Heyer (*Journ. Microsc. Soc.*, p. 251) with a view to determine the cause of differentiation of sex in unisexual plants. The result obtained in the case of dioecious plants, by experiments with 21,000 specimens of *Mercurialis annua* and 6,000 of *Cannabis Indica*, was that external conditions have no influence upon the production of seedlings of one or the other sex. In the case of the former plant the proportion of males to females produced was as 105.85 to 100, and in the latter as 86 to 100. In a second series of experiments made with monœcious plants, to determine whether external conditions of temperature and soil caused any difference in the proportion of male and female flowers, *Urtica urens*, *Atriplex*, *Spinacia*, *Xanthium*, and various Cucurbitaceæ produced negative results. He also came to the conclusion that sex is determined at an earlier period than the ripening of the seed. A knowledge of the means whereby female plants could be produced at will would be of considerable commercial importance, as, for instance, in the cultivation of nutmegs, hops, etc.

*A gigantic Plane-tree*—Professor Virchow recently exhibited at a meeting of the Berlin Medical Society photographs of a gigantic plane-tree growing in the Island of Cos, under the shade of which Hippocrates is said, by tradition, to have held medical consultations. The tree now stands in the market-place of Cos on the east side of the island. The branches, which spread over nearly the whole of the market-place, are supported by marble pillars.

### Botanical Literature.

*A Catalogue of the Native and Naturalized Plants of the city of Buffalo and its vicinity*. By David F. Day. 8vo, pp. 215. Buffalo: Baker, Jones & Co. 1883.

Of purely local floras, this, presenting the names of all the plants which have been detected within a radius of fifty miles of Buffalo, may be regarded as one of the completest that has ever been published in this country. All the classes in the vegetable kingdom are included, and the number of plants enumerated, according to the tabular statement on page 190, is 2,739, which are distributed among 946 genera.

*Mahonia Aquifolia as a Nurse of the Wheat Mildew (Puccinia Graminis)*. By C. B. Plowright. (From *Proceedings* of Royal Society, No. 228).

*On the Life History of the Dock Æcidium (Æc. Rumicis)*. By C. B. Plowright. (From *Proceedings* of Royal Society, No. 228).

*The Microscopical Bulletin and Opticians Circular*.

Under this title, the well-known opticians, Messrs. James W. Queen & Co., of Philadelphia, have recently begun the publication of a bi-monthly which will prove of value and interest to all microscopists, and which will no doubt be well supported by them. Sample copies will be sent to those who request them.

*The Microscopic Examination of Timber with regard to its Strength.*

By F. M. Day.

(From the *Proceedings* of the Amer. Philosoph. Society.)*On the Comparative Morphology of Sciadopitys.* By M. T. Masters, M.D.(Reprint from the *Journal of Botany*).

**Proceedings of the Torrey Club.**—At the regular meeting of the Club held Tuesday evening, April 8th, the President occupied the chair and eighteen persons were present.

After some remarks by the President on the efforts that are being made to save the Adirondack forest, a committee, consisting of the President, Vice-President and Secretary, was appointed to draft resolutions to be presented at the public meeting to be held at Chickering Hall.

Mr. Hollick read a paper entitled "Notes on the Genus *Viola*," of which the following is an abstract:

*The Genus Viola*.:—The changes which most species of the genus *Viola* undergo in the late summer and autumn months do not seem to have had the attention bestowed upon them that their importance deserves. The changes are in leaf, stem and flower, and are apparently invariable and constant, hence of considerable value in determining specific differences.

The following species were collected and studied during the past year: *V. cucullata*, Ait.; *V. sagittata*, Ait.; *V. palmata*, L.; *V. blanda*, Willd.; *V. primulæfolia*, L.; *V. lanceolata*, L.; *V. odorata*, L.; *V. pedata*, L. and *V. canina*, L., var. *sylvestris*, Regel.—*V. cucullata* and *V. sagittata* are connected by every conceivable intermediate form, and *V. palmata* also connects with the former by insensible gradations. There is one characteristic, however, which can always be depended upon to distinguish *V. cucullata* and its varieties from the other species, and that is the decumbent habit of the cleistogamous flowers. Indeed, the entire growth of this species partakes of the decumbent habit, the rootstock, leaves and flowers being seldom if ever strictly erect. In *V. sagittata* the growth of the plant is erect from the roots and continues so throughout, and the cleistogamous flowers are conspicuously so.

It is sometimes difficult to know, from superficial appearances, where to place *V. palmata*, whether as a variety of *cucullata* or *sagittata*, but the decumbent habit of the intermediate forms point to the former as the type. In the young plants of *palmata*, the palmate and cucullate leaves may often be seen on the same plant, this being in accordance with the well recognized principle that the typical form is always more manifest in the young individuals of the variety or derived species.

The three species of white violets are known to be very closely allied. *V. primulæfolia* and *V. lanceolata* produce such a variety of intermediate forms that it is an utter impossibility to say definitely where some of them belong. *V. blanda*, however, is unmistakably distinct, in several particulars. In the autumn, all three of these species produce runners, but no detailed description of the latter seems to have been made. In the entire Torrey herbarium